

1. (Canceled)

2. (Currently Amended) The method of claim ~~4~~25, further comprising:
inserting a second component into the slot of the preform after step (e) and before step
(f); and
completing step (f) with the second component in the slot.

3. (Reinstated and currently amended) The method of claim ~~4~~25, further comprising:
inserting a rigid sizing tool into the slot of the preform after step (e) and before step (f);
completing step (f) with the sizing tool in the slot;
removing the sizing tool after step (f), the slot being sized for insertion of a second
component; and
inserting the second component into the slot and adhering the second component to the
preform.

4. (Currently Amended) A method of joining first and second composite components, the
method comprising:

- (a) placing a stack of layers onto a bonding surface of the first component, a first
layer of the stack of layers being in contact with the bonding surface and being a
woven peel ply layer;
- (b) providing a plurality of Z-pins in a foam carrier and inserting the Z-pins through
the stack of layers into the first component prior to curing the first component by
placing the foam carrier in contact with the stack of layers and exerting a force on
the foam carrier;
- (c) curing the first component;

- (d) leveling the Z-ins Z-pins to cause ends of the Z-pins to be flush with an exterior surface of the stack of layers with the foam carrier removed;
- (e) providing a woven preform having a base and at least one leg extending from the base;
- (f) removing the stack of layers after the first component has been cured, creating a stubble of Z-pins above the bonding surface, then placing the base of the preform against the bonding surface of the first component, the stubble extending into the base of the preform;
- (g) placing the second component in contact with the leg of the preform; and
- (h) curing the preform to adhere the base of the preform to the first component and the leg of the preform to the second component, joining the components with the preform.

5. (Previously presented) The method of claim 4, further comprising:

in step (f), inserting adhesive between the base of the preform and the first component.

6. (Previously presented) The method of claim 4, further comprising:

in step (g), inserting adhesive between the leg of the preform and the second component.

7. (Previously presented) The method of claim 4, further comprising:

removing the foam carrier before curing the panel in step (c).

8. (Previously presented) The method of claim 4, wherein step (d) comprises:

after curing the panel in step (c) removing at least one of the layers and trimming the stubble to a height equal to a height of the layers that remain on the bonding surface.

9. (Previously presented) The method of claim 4, wherein step (d) comprises:

before curing the panel in step (c), removing at least one of the layers to expose ends of the Z-pins and exerting an additional force on the ends of the Z-pins until the ends are flush with the exterior surface of the remaining layers.

10. (Previously presented) The method of claim 4, wherein:

the peel ply is formed from nylon fibers.

11. (Previously presented) The method of claim 4, wherein:

the peel ply is formed from glass fibers.

12. (Previously presented) The method of claim 4, wherein the stack of layers comprises:

an elastomeric spacer located above the first layer.

13.-17. (Canceled)

18. (Currently Amended) ~~The method of claim 17, further comprising: A method of joining a woven preform to a panel, the method comprising:~~

- (a) placing at least one woven peel ply layer in contact with a bonding surface of a composite panel;
- (b) providing a plurality of Z-pins within a foam carrier and inserting Z-pins into the peel ply layer and the composite panel prior to curing the panel by placing the foam carrier on the peel ply layer and exerting a downward force on the foam carrier, then removing the foam carrier; then
- (c) curing the panel; then
- (d) after the panel is fully cured, removing the peel ply layer to expose the bonding surface and form a stubble of Z-pins protruding from the bonding surface;
- (e) providing a woven preform having a base and at least one leg that extends from the base, the preform being infused with uncured resin; then
- (f) placing the base of the preform against the bonding surface of the panel after the peel ply layer has been removed, the stubble extending into the base of the preform; then
- (g) curing the preform with the at least one leg in a desired orientation; and
after application of the peel ply and before insertion of the Z-pins, heating the panel and the peel ply to hot debulk the panel and the peel ply.

19. (Currently Amended) The method of claim 17, further comprising: A method of joining a woven preform to a panel, the method comprising:

- (a) placing at least one woven peel ply layer in contact with a bonding surface of a composite panel;

- (b) providing a plurality of Z-pins within a foam carrier and inserting Z-pins into the peel ply layer and the composite panel prior to curing the panel by placing the foam carrier on the peel ply layer and exerting a downward force on the foam carrier, then removing the foam carrier; then
- (c) curing the panel; then
- (d) after the panel is fully cured, removing the peel ply layer to expose the bonding surface and form a stubble of Z-pins protruding from the bonding surface;
- (e) providing a woven preform having a base and at least one leg that extends from the base, the preform being infused with uncured resin; then
- (f) placing the base of the preform against the bonding surface of the panel after the peel ply layer has been removed, the stubble extending into the base of the preform; then
- (g) curing the preform with the at least one leg in a desired orientation; and
shearing ends of the Z-pins flush with an exterior surface of the peel ply layer before step (f).

20. (Currently Amended) The method of claim 17, A method of joining a woven preform to a panel, the method comprising:

- (a) placing at least one woven peel ply layer in contact with a bonding surface of a composite panel;
- (b) providing a plurality of Z-pins within a foam carrier and inserting Z-pins into the peel ply layer and the composite panel prior to curing the panel by placing the

foam carrier on the peel ply layer and exerting a downward force on the foam carrier, then removing the foam carrier; then

- (c) curing the panel; then
- (d) after the panel is fully cured, removing the peel ply layer to expose the bonding surface and form a stubble of Z-pins protruding from the bonding surface;
- (e) providing a woven preform having a base and at least one leg that extends from the base, the preform being infused with uncured resin; then
- (f) placing the base of the preform against the bonding surface of the panel after the peel ply layer has been removed, the stubble extending into the base of the preform; then
- (g) curing the preform with the at least one leg in a desired orientation; and wherein
step (a) comprises placing at least two of the woven-fabric peel plies on the bonding surface of the panel with a non-porous film between them and removing both of the peel plies and the non-porous film before step (f).

21. (Currently amended) The method of claim 17, wherein

step (a) further comprises locating an elastomeric spacer on the peel ply and removing the spacer along with the peel ply before step (f).

22. (Currently Amended) The method according to claim 17, further comprising: A method of joining a woven preform to a panel, the method comprising:

- (a) placing at least one woven peel ply layer in contact with a bonding surface of a composite panel;

- (b) providing a plurality of Z-pins within a foam carrier and inserting Z-pins into the peel ply layer and the composite panel prior to curing the panel by placing the foam carrier on the peel ply layer and exerting a downward force on the foam carrier, then removing the foam carrier; then
- (c) curing the panel; then
- (d) after the panel is fully cured, removing the peel ply layer to expose the bonding surface and form a stubble of Z-pins protruding from the bonding surface;
- (e) providing a woven preform having a base and at least one leg that extends from the base, the preform being infused with uncured resin; then
- (f) placing the base of the preform against the bonding surface of the panel after the peel ply layer has been removed, the stubble extending into the base of the preform; then
- (g) curing the preform with the at least one leg in a desired orientation; and

in step (a) placing additional layers on the woven peel ply before inserting the Z-pins;

and

after insertion of the Z-pins, removing at least one of the additional layers along with the foam carrier, and leveling the Z-pins to cause ends of the Z-pins to be flush with the remaining layers on the bonding surface of the panel.

23. (Previously presented) The method according to claim 22, wherein the Z-pins are leveled by shearing the ends of the Z-pins after the panel is cured in step (c).

24. (Canceled)

25. (Currently Amended) The method according to claim 24, further comprising A method of making a composite structure, the method comprising:

(a) locating at least two peel plies on the bonding surface of a component, with a first one of the peel plies being of a woven material and being in contact with the bonding surface; then

(b) inserting pins through the peel plies and into the component prior to curing of the component; then

(c) curing the component;

(d) providing a woven preform having a base and two legs extending from the base, the legs defining a slot; then

(e) removing the peel plies to expose a stubble created by the pins and placing the base of the preform against the bonding surface of the component, the pins extending into the base of the preform;

(f) curing the preform to adhere the base of the preform to the component; wherein step (b) comprises placing a foam carrier containing the pins against the peel plies and exerting a downward force on the foam carrier, then removing the foam carrier before curing the component in step (c); and wherein the method further comprises

leveling the pins to cause ends of the pins to be flush with an exterior surface of the peel plies after removal of the foam carrier.

26. (Currently Amended) The method according to claim 24, further comprising A method of making a composite structure, the method comprising:

(a) locating at least two peel plies on the bonding surface of a component, with a first one of the peel plies being of a woven material and being in contact with the bonding surface; then

(b) inserting pins through the peel plies and into the component prior to curing of the component; then

(c) curing the component;

(d) providing a woven preform having a base and two legs extending from the base, the legs defining a slot; then

(e) removing the peel plies to expose a stubble created by the pins and placing the base of the preform against the bonding surface of the component, the pins extending into the base of the preform;

(f) curing the preform to adhere the base of the preform to the component; wherein step (b) comprises placing a foam carrier containing the pins against the peel plies and exerting a downward force on the foam carrier, then removing the foam carrier before curing the component in step (c); and wherein the method further comprises after removal of the foam carrier and after curing the component in step (c), removing at least one of the peel plies and shearing protruding ends of the pins to be flush with an exterior surface of a remaining one of the peel plies.